## Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Complete if Known Application Number 10/568,422 October 22, 2007 Filing Date First Named Inventor TELFORD Group Art Unit 1645 Examiner Name Devi PP020665.0003 Attorney Docket Number

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	U.S. PATENT DOCUMENTS				
Examiner Initials *	Cite No.	Document Number  Number - Kind Code <sup>2</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Floures Appear
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		FOREIGN PA	TENT DOCU	MENTS		
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/S.D./ ABBAS et al., <u>Cellular and Molecular Immunology</u> , 4th ed., Chapter 15, pages 360-62, 2000				r 15, pages 360-62,		
		AMARA et al., "Molecular detection antibodies," Neurosci. Lett. 185, 1			ng specific	
	ARESCHOUG et al., "Group B streptococcal surface proteins as targets for protective antibodies: identification of two novel proteins in strains of serotype V.," Inf. Immun. 67(12), 6350-57, Dec. 1999.					
	BANKS et al., "Progress toward characterization of the Group A Streptococcus metagenome: Complete genome sequence of a macrolide-resistant serotype M6 strain," I. Infectious Diseases 190, 27-38, Jugust 15, 2004					
		BARNETT & SCOTT, "Differential re pyogenes by two sortase gene hor				
		BARNETT et al., "A Novel Sortase, Surface Protein Containing a QVPT Vol. 186, No. 17, pp. 5865-5875, S	GV Motif to	the Cell Wall," Jour		
	BECKMANN et al., "Identification of Novel Adhesins from Group B Streptococci by Use of Phage Display Reveals that CSa Peptidase Mediates Fibronectin Binding," Inf. Immun. 70, 2869-76, June 2002					
/S.D./	BESSEN et al., "Genomic Localization of a T Serotype Locus to a Recombinatorial Zone Ending Extracellular Matrix-Binding Proteins in Streptococcus pyogenes," Infection and Immunity, Vol. 70, No. 3, pp. 1159-1167, March 2002					
/S.D./		BLACK et al: "Streptococcus pneur Accession No. AAV42990, Novemb		eptide coding region	on"; GENBANK	
/S.D./	/S.D./ BLACKBURN et al., "The end of the (DNA) line," Nature Structural Biology 7, 847-49, Oct. 2000					

Examiner Signature /S. Devi/	Date Considered 11/09/2009	
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#### Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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	FOREIGN PATENT DOCUMENTS					
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/S.D./ BORK et al., "Powers and pitfalls in sequence analysis: the 70% hurdle," Geno Research 10, 398-400, 2000			rdle," Genome			
		BOROVEC et al., "Synthesis and as cells," J. Virol. 67, 3095-301, June		oatitis A virus-speci	fic proteins in BS-C-1	
	BOWIE et al., "Deciphering the message in protein sequences: tolerance to amino acid substitution," Science 257, 1306-10, 1990					
	BRODEUR et al., "Identification of group B streptococcal Sip protein, which elicits cross-protective immunity," Inf. Immun. 68(10), 5610-8, Oct. 2000					
	BURGESS et al., "Possible dissociation of the heparin-binding and mitogenic activities of heparin-binding (acidic fibroblast) growth factor-1 from its receptor-binding activities by site-directed mutagenesis of a single lysine residue," J. Cell Biol. 111, 2129-38, 1990					
		CHUNG et al., "chlorosome protei	n," NCBI Acce	ssion No. 2115394	F, July 10, 1992	
	CLANCY et al., "Cloning and Characterization of a Novel Macrolide Efflux Gene, mreA, from Streptococcus agalactiae," Antimicrobial Agents and Chemotherapy 41, 2719-23, 1997					
	COLLINS et al., "Mutation of the principal sigma factor causes loss of virulence in a strain of the Mycobacterium tuberculosis complex," Proc. Natl. Acad. Sci. USA 92, 8036-40, 1995					
V		DALE et al., "New Protective Antig 1261-68, May 1999	en of Gorup /	A Streptococci," J. (	Clin. Invest. 103,	
/S.D./		DALE et al., "Recombinant, octava Vaccine 14, 944-48, 1996	lent group A :	streptococcal M pr	otein vaccine,"	

Examiner Signature	/S. Devi/	Date Considered	11/09/2009
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#### Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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/S.D./		DALE, "Group A Streptococcal Vac 13, 227-43, March 1999	cines," Infect	ious Disease Clinics	of North America	
DALE, "Multivalent group A streptococcal vaccine designed to optimize the immunogenicity of six tandem M protein fragments," Vaccine 17, 193-200, 1999  DATABASE EMBL, Accession No. AAX13129, Enterococcus faecalis genome contig SE IO No. 192, March 19, 1999						
				genome contig SEQ		
	DATABASE EPO Proteins, EBI Accession No. AX605513, "Sequence 3442 from WO0209818," February 17, 2003					
		DATABASE Geneseq, "Group B Str Accession No. GSP:AAY91320, Ma		rotein sequence SE	Q ID NO:49," EBI	
		DATABASE Geneseq, "Streptococc No. GSP:ADV81242, February 24,		protein, SEQ ID 23	82," EBI Accession	
DATABASE Geneseq, "Fibrinogen-binding polypeptide, SEQ ID NO:17," EBI Acces No. GSP: ADS93952, December 2, 2004; revised in 2007		17," EBI Accession				
		DATABASE Geneseq, EBI Accession SEQ ID NO:9444," July 2, 2002	n No. GSP: AE	3P30134, "Streptoo	occus polypeptide	
V		DATABASE Geneseq, EBI Accession SEQ ID NO:3746," July 2, 2002; rev		P27285, "Streptoc	occus polypeptide	
/S.D./		DATABASE Genseq, "Protein enco Accession No. ABU46451, June 13		yotic essential gen	ie #319788,"	

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/S.D./		DATABASE JPO Proteins, "Nucleic Streptococcus," EBI Accession No.			roup B		
Т		DATABASE SWISSPROT[Online] 01 Oct 2002, accession no. EBI, Database accession no. Q9PGX9, Hypothetical protein XF0167					
	DATABASE UniProt [Online] 1 March 2003, "Cell wall surface anchor family protein," retrieved from Ela accession no. UNIPROT: QBDYR5, Database accession no. QBDYR5, 87.2% identity with SEQ ID NO:20906						
	DATABASE UniProt [Online], 22 November 2005, "Cell wall surface anchor family protein," retrieved from EBI accession no. UNIPROT: Q3D2D6; 100% identity with SEQ ID NO:20906: abstract						
		DE BOEVER et al., "Enterococcus fi nucleotide sequence and genetic a 37, 1327-41, 2000					
	DITTMER et al., "Treatment of infectious diseases with immunostimulatory oligodeoxynucleotides containing CpG motifs," Curr. Opinion Microbiol. 6, 472-77, Oct. 2003  DUEZ, "Enterococcus hirae mraR, pbp3s, mraY, murD, murG, ftsQ and ftsA genes, mraW, yilC and ftsZ partial genes," GENBANK Accesion No. Y13922, April 18, 2005						
		ELLIS, <u>Vaccines</u> , Chapter 29, Plotki pages 568-75, 1988	n et al., eds.,	W.B. Saunders Cor	npany (Philadelphia),		
$\bigvee$		EXAMINATION REPORT for NZ 560	966, March 4	, 2009, 2 pages			
/S.D./		FERRETTI et al., "Complete genom pyogenes," Proc. Natl. Acad. Sci. U			treptococcus		

	Examiner Signature	/S. Devi/	Date Considered	11/09/2009
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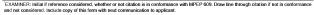
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Application Number	10/568,422				
Filing Date	October 22, 2007				
First Named Inventor	TELFORD				
Group Art Unit	1645				
Examiner Name	Devi				
Attorney Docket Number	PP020665.0003				

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/S.D./		FERRETTI et al., "Putative surface of October 31, 2006	exclusion pro	tein," GENBANK Ac	cession No. Q9A1H3,	
		FERRETTI et al: "Streptococcus pye complete genome" DATABASE Acc			ction 87 of 167 of the	
		GLASER et al., "Genome sequence invasive neonatal disease," Mol. N			athogen causing	
		GRANDI & ZAGURSKY, "The impact and lessons," Expert. Rev. Vaccine			ry: achievements	
		Grandi, "Genomics and Proteomic Functional Biology of Whole Organ Sons, chapter 20, 2006				
		GREENSPAN et al., "Defining epito 7, 936-37, 1999	pes: It's not a	s easy as it seems,	" Nature Biotechnol.	
		GUTEKUNST et al., "Analysis of Ro Expression in Streptococcus agala				
		GUTIERREZ et al., "insertional Mut Streptococcus mutans by Using Tr Mutants Displaying Acid Sensitivit 4166-75, July 1996	ansposon Tn	917: Preliminary Cl	naracterization of	
/S.D./		GUTTIEREZ et al., "Streptococcus i gene, complete cds; Ffh (ffh) gene SatD (satD) gene, complete cds; al Accession No. U88582, April 3, 20	e, complete co nd SatE (satE)	ls, alternatively spli	iced; SatC (satC) and	

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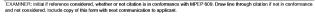
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/S.D./		GUZMAN et al., "Protective immu after intranasal vaccination with the Disease 179, 901-06, 1999				
		HOLMES, "PSMA specific antibodio Opin. Invest. Drugs 10, 511-10, 20		iagnostic and thera	peutic use," Exp.	
	HONG, "unnamed protein product [Streptococcus pyogenes]," NCBI Accession No. BAB1603, one page, Oct. 3, 2000					
		HORVATH et al., "Toward the deve vaccine of high purity and broad p 29;47(16):4100-4				
		HUGHS et al., "Identification of Magalactiae," Inf. Immun. 70, 1254-			reptococcus	
		International Preliminary Examina 02/34771) dated February 17, 200		or PCT/GB01/04789	(published as WO	
		International Preliminary Examina WO 03/093306) dated August 18,		or PCT/GB2003/00:	1882 (published as	
		International Preliminary Examina WO 06/042027) dated April 11, 20		or PCT/IB2005/036	009 (published as	
$\overline{V}$		International Preliminary Examina WO 04/041157) dated March 5, 20		or PCT/US2003/029	167 (published as	
/S.D./		International Preliminary Examina WO 05/032582) dated February 6		or PCT/US2004/024	1868 (published as	

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/S.D./		International Preliminary Examina WO 05/028618) dated March 16,		or PCT/US2004/03	0032 (published as		
Т		International Search Report for PC August 27, 2002	T/GB01/0478	39 (published as W	O 02/34771) dated		
International Search Report for PCT/GB2003/001882 (published as WO 03/093306) dated November 14, 2002					s WO 03/093306)		
		International Search Report for PC dated June 20, 2006	T/IB2005/03	6009 (published as	WO 06/042027)		
		International Search Report for PO WO 2006/069200)	T/US05/0464	91 dated June 26,	2007 (published as		
		International Search Report for PCT/US2003/029167 (published as WO 04/041157) dated August 2, 2004					
		International Search Report for PCT/US2004/024868 (published as WO 05/032582) dated October 28, 2005					
		International Search Report for PC dated December 6, 2005	T/US2004/03	0032 (published a	s WO 05/028618)		
$\sqrt{}$		International Search Report for PC dated August 25, 2008	T/US2005/02	7239 (published a	s WO 06/078318)		
/S.D./		International Search Report for PC dated October 9, 2008	T/US2007/02	2838 (published a	s WO 08/108830)		

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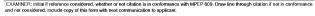
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/S.D./		JOBLING et al., "Analysis of structors the use of site-directed mutagene					
		KALMAN et al., "Comparative gen Nature Genetics 21, 385-89, April		nydia pneumoniae	and C. trachomatis,"		
KEHOE et al., "Nucleotide Sequence of the Streptolysin O (SLO) Gene: Structur. Homologies between SLO and Other Membrane-Damaging, Thiol-Activated To Inf. Immun. 55, 3228-32, December 1987							
		KOCH et al., "Complexity and expr Natl. Acad. Sci. USA 89, 353-57, Ja		ns of the desmosor	mal adherins," Proc.		
		KUNST et al., "The complete genome sequence of the Gram positive bacterium Bacillus subtilis," NCBI Accession No. CAB14964, November 20, 1997					
		LACHENAUER et al., "A protective Streptococcus shares N-terminal s Immun. 64, 4255-60, October 199	equence hon				
		LARSSON et al., "Protection agains by immunization with a bivalent p					
		LAUER et al., "Genome Analysis Re 105, July 1, 2005	eveals Pili in C	iroup B Streptococ	cus," Science 309,		
V		LAZAR et al., "Transforming growt leucine 48 results in different biol					
/S.D./		LE PAGE et al., "Streptococcus aga Accession No. AX134653, May 29,		nce 217 from WO	01/32882, GENBANK		

Examiner Signature	/S. Devi/	Date Considered	11/09/2009



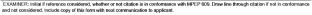
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/S.D./		LEI et al., "Identification and immu supernatant proteins," Inf. Immur			ccus culture			
		LEWIS, "Riddle of Biofilm Resistance," Antimicrobial Agents and Chemotherapy, Vol. 45, No. 4, pp. 999-1007, April 2001						
			LINDAHL et al., "Surface proteins of Streptococcus agalactiae and related proteins in other bacterial pathogens," Clinical Microbiol. Rev. 18(1), 102-07, Jan. 2005					
		Polysaccharide-Beta C Protein Cor	MADOFF et al., "Maternal Immunization of Mice with Group 8 Streptococcal Type III Polysaccharide-Beta C Protein Conjugate Elicits Protective Antibody to Multiple Serotypes," J. Clinical Invest. 94, 286-92, 1994					
		MAIONE et al., "Identification of a Universal Group B Streptococcus Vaccine by Multiple Genome Screen," Science 309, 148-50, July 1, 2005						
		McMILLAN et al., "Identification and assessment of new vaccine candidates for group A streptococcal infections," Vaccine 22, 2783-90, 2004						
			McMILLAN et al., "Prospecting for new group A streptococcal vaccine candidates," Indian J. Med. Res. 119, 121-25, May 2004					
		MEEHAN & OWEN, "Sequence 1 for A68631, May 6, 1999	rom Patent W	'09801561," GENB	ANK Accession No.			
		MEINKE et al., "S. pyogenes hyper Accession No. ADR83896, Decemb						
/S.D./		MICHEL et al: "Cloned alpha and be protective immunity"; INFECTION 2028.						

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		OTHER PRIOR ART NON F	PATENT LITE	RATURE DOCUM	ENTS	
Examiner Initials *						
/S.D./		MOLLING et al., "Naked DNA for v	accine or the	rapy," J. Mol. Med.	75, 242-46, 1997	
		MORA et al., "Group A Streptococ protective antigens and Lancefield 46, October 25, 2005				
		MUSSER, "The Next Chapter in Re 2006	verse Vaccino	logy," Nat. Biotech	nol. 24, 157-58,	
		NAKAGAWA et al., "Genome sequ reveals a large-scale genomic rear phage evolution," Genome Res. 13	rangement in	invasive strains an		
		NAKATA et al., "MsmR, a specific positive regulator of the Streptococcus pyogenes FCT pathogenicity region and cytolysin-mediated translocation system genes," Mol. Microbiol. 57, 786-803, 2005  NAVARRE et al., "Surface Proteins of Gram-Positive Bacteria and Mechanisms of Their Targeting to the Cell Wall Envelope," Microbiology and Molecular Biology Reviews, Vol. 63, No. 1, pp. 174-229, March 1999				
		NCBI News, table on page 4, "Mici 1998	robial Genom	es Available for BL/	AST Search," July	
		OLIVE et al., "Protection of mice for immunization with a peptide vacce epitope and lacks a T cell autoepit	ine that conta	ins a conserved M	protein B cell	
		OREFICI et al., "Possible virulence Group B)," J. Clin. Microbiol. Infec			tiae (Lancefiled	
/S.D./		PAOLETTI et al., "Neonatal mouse streptococcal (GBS) serotypes by polysaccharide-tetanus toxoid cor	maternal imm	unization with a te	travalent GBS	

Examiner Signature	/S. Devi/	Date Considered	11/09/2009
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	U.S. PATENT DOCUMENTS						
Examiner Initials *	Cite	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant		
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/S.D./		PAOLETTI, "Surface structure of gr immunity," in <u>Gram Positive Patho</u> 2000				
		POURNARAS et al., "Pheromone re conjugative plasmids of Enterococ Chemotherapy 46, 1013-16, 2000				
		PRITZLAFF et al., "Genetic basis fo streptococcus," Mol. Microbiol. 39			ctivity of group B	
		PRITZLAFF et al., "Streptococcus a GENBANK Accession No. AF15701			l sequence,"	
		PROFT et al., "Identification and C Streptococcus pyogenes," J. Exp. N				
		PUCCI et al., "Enterococcus faecalis strain A24836 cell wall/cell division gene cluster, yllB, yllC, yllD, pbpC, mraY, murD, murG, divlB, ftsA and fitsZ genes, complete cds," GENBANK Accession No. U94707, September 10, 1997				
		QUINN, "The response of rheumal concentrate," J. Clin. Invest. 36, 79			o streptolysin O	
		RAMACHANDRAN et al., "Two Dist Binding Protein, and Evolution of of Bacteriology, Vol. 186, No. 22, p	the Gene Fam	nily in Streptococcu		
/\$.D./		RODEWALD et al., "Neonatal mou Infectious Diseases 166, 635-39, 1		roup b streptococo	al infection," J.	

Examiner Signature	/S. Devi/	Date Considered	11/09/2009
EVAMINED: Indi	al if reference considered, whether or not citation is in confe	rmones with MDED	200 Drow line through citation if not in confermons

## Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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/S.D./			RODRIGUEZ-ORTEGA et al., "Characterization and identification of vaccine candidate proteins through analysis of the group A Streptococcus surface proteome," Nature						
		ROITT et al., Structure of Antigens and 7.8, 1998	, <u>Immunolog</u> y	, 4th ed., Mosby, l	ondon, pages 7.7				
		ROSINI et al., "Identification of no structures in Streptococcus agalac							
		RUDENKO et al., "Selection for act expression site in Trypanosoma b Biochem. Parisitol. 95, 97-109, 19	ucei can resu	It in deletion of the	old one," Mol.				
		RUDINGER et al., "Characteristics hormone sequence," in <u>Peptide H</u> 1976, pages 1-7							
		SCHNEEWIND et al., "Sequence and Structural Characteristics of the Trypsin-Resistant T6 Surface Protein of Group A Streptococci," Journal of Bacteriology, Vol. 172, No. 6, pp. 3310-3317, June 1990							
		SCHNEEWIND, "Structure of the C aureus," Science 268, 103-06, Apr		or of Surface Protei	ins in Staphylococcus				
		SEGURA et al., "Streptococcus sui: interactions with murine macroph 1998							
		SEIZEN, "Multi-domain, cell envelo Leeuwenhoek 76, 139-55, 1999	pe proteases	of lactic acid bact	eria," Antonie von				
/S.D./		SIMPSON et al., "Xylella fastidiosa GENBANK Accession No. AE00399			complete genome,"				

Examiner Signature	/S. Devi/	Date Considered	11/09/2009

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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/S.D./		SMOOT et al., "Genome sequence M18 group A Streptococcus strain Proc. Natl. Acad. Sci. USA 99, 4668	s associated v	with acute rheumat		
		SPELLERBERG et al., "Streptococco GENBANK Accession No. AF09378			mplete sequence,"	
		SPELLERBERG et al: "Identification Streptococcus agalactiae by ISSI tr 1999; pp 3212-3219.				
		STALHAMMAR-CARLEMALM et al related to several group B strepto and promotes binding to human e 219.	coccal surface	e proteins, confer p	rotective immunity	
		STEPHENSON et al., "The Fap1 firm for the glycan moiety block the ad tooth model," Mol. Microbiol. 43,	lhesion of <i>Str</i> e	eptococcus parasar		
		SU et al., "Identification of a Xeno fission yeast Schizosaccharomyce				
		Supplementary Search report for dated January 21, 2008	EP 03799822	(corresponding to	WO 04/041157)	
V		SUROVOV & FERRETTI, "Physical a of Streptococcus pyogenes," J. Ba				
/S.D./		TAKAMI et al., "Two component s regulation," NCBI Accession No. N				

Examiner Signature	/S. Devi/	Date Considered	11/09/2009	
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#### Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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U.S. PATENT DOCUMENTS Name of Patentee or Applicant of Cited Document Document Number Publication Date Pages, Columns, Lines, Where Relevant Passages or Relevant Examiner Initials Cite MM-DD-YYYY No. Number - Kind Code<sup>2</sup> (if known) Figures Appear

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/S.D./		TELFORD et al., "Sequence 7466 fr February 2, 2004; modified May 3		4771, EBI Accession	n No. CQ650509,	
		TELFORD et al., "Streptococcus po Accession No. ABP300006, July 2,			/O 02/34771, EBI	
	TETTELIN et al., "Complete genome sequence and comparative genomic analysis of an emerging human pathogen, serotype V Streptococcus agalactiae," Proc. Natl. Acad. Sci. USA 99, 12391-96, September 17, 2002					
		TETTELIN et al., "Complete genom pneumoniae," Science 293, 498-50		f a virulent isolate	of Streptococcus	
		TETTELIN et al., DATABASE EMBL, 2603V/R section 3 of 100 of the co				
Т		TETTELIN et al., Swiss-Prot Accessi 18R21, November 22, 2005	on No. Q3DV	91 for Streptococci	us agalactiae strain	
		TIGHE et al., "Gene vaccination: pl Immunology Today 19, 89-97, Feb		more than just a b	lueprint,"	
		TODD, "Antigenic Streptococcal H	emolysin," J.	Exp. Med. 55, 267-8	80, 1932	
V		TON-THAT & SCHNEEWIND, "Asse diphtheriae," Mol. Microbiol. 50, :			rynebacterium	
/S.D./		TON-THAT et al., "Sortases and pil Corynebacterium diphtheriae," M			embly of	

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/S.D./		UniProt Accession No. A7CNQ7, Ju	ıly 5, 2004			
		UniProt Accession No. Q5XEL1, No.	ov. 23, 2004			
		UniProt Accession No. Q8P318, Oc	t. 1, 2002			
		VALLET et al., "The chaperone/ush Identification of fimbrial gene clus formation," PNAS, Vol. 98, No. 12,	ters (cup) an	d their involvement		
		WANG et al., "Protein encoded by No. ABU46451, June 19, 2003; rev			978," EBI Accession	
		WATNICK et al., "Steps in the deve Molecular Microbiology, Vol. 34, N			Tor biofilm,"	
		WESSELS et al., "Stimulation of prestreptococci by a type 1a polysacci Immun. 61, 4760-66, 1993				
V	WOODSON et al., "Analysis of a ribose transport operon from Bacillus subtilis," Microbiology 140, 1829-38, 1994					
/S.D./		ZHONG et al., "Hypothetical prote AAD29767, May 11, 1999	in of Arabido	psis thaliana," NCB	Accession No.	
			_		•	

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